<u>REMARKS</u>

Claims 24, 25, 27-30, 33-35, 37, and 40-49 are pending. Claims 30, 37, and 47 are objected to for informalities. Claims 24, 25, 27-30, 33-35, 37, and 40-45 are rejected under 35 USC 103(a) as being unpatentable over US 7,215,775 (Noguchi et al.) in view of US 2003/0033537 (Fujimoto et al.). Claims 46-49 are rejected under 35 USC 103(a) as being unpatentable over Noguchi in view of Fujimoto and in view of US 6,973,499 (Peden et al.).

Claims 24, 28, 30, 37, 40, 42, and 47 are amended herein. Claims 25, 27, and 29 are canceled. Claims 50 and 51 are new. No new matter has been added. Claims 24, 28, 30, 33-35, 37, and 40-51 are presented for examination.

<u>Response to claim objections</u>

Claims 30, 37, and 40 are amended as required.

<u>Response to rejections under 35 USC 103(a)</u>

Present claims 24, 40, 47, 51, and 52 recite that the stochastic random number is obtained from operational measurements in an automation system. This is significant because numerous operational measurements are already available in an automation system without additional hardware. This eliminates the need for a dedicated stochastic random number generator, as is required in Fujimoto (par. 52). Combining Fujimoto with Noguchi would not produce the invention as claimed. For this reason, Fujimoto does not support the rejection of Office Action, par. 15 for claims 24, 40, 47, 51, and 52. Applicants' operational measurement source allows combinations of stochastic operational measurements to be used for symmetric key generation, as described in par. 65, and as claimed in claims 51 and 52. This provides maximum unpredictability without additional hardware.

Examiner holds in paragraph 21 of the Office Action that it would be an obvious design choice to use the least significant bits of measured data. However, he provides no prior reason for doing this, no documentation, not even an illustrative example from his memory. A design choice is one of plural known options that are equally or similarly good choices. However, removing high-order bits from measurement data normally destroys the data. As a simple example, assume a time series of 8-bit measurement data ranges in magnitude from binary 00100101 to 01110011 (decimal 37 to 115). If you remove the top 4 bits, the data representation is limited to a maximum value of 1111, or decimal 15. This would eliminate the most significant portion of the data, destroying the data, and therefore would certainly not be done without some non-obvious and special reason. Furthermore, the goal of a random number is unpredictability. The more significant bits there are in a random number, the less predictable and harder to guess it is, thus the more secure it is as a seed value for a security key. These factors teach away from using only the least significant bits, either for data collection or for security key derivation. For these reasons, the rejection cited in Office Action par. 21 is not supported for the present claims 40 and 47 by general knowledge, and is not an obvious design choice.

> KSR v. Teleflex, 550 U.S. _____, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007):
> Although common sense directs caution as to a patent application claiming as
> innovation the combination of two known devices according to their established
> functions, <u>it can be important to identify a reason</u> that would have prompted a person
> of ordinary skill in the art to combine the elements as the new invention does.

Conclusion

For obviousness to occur under 35 USC 103, a combination must be suggested by the references or motivated by obvious or expected benefits in view of documented knowledge in the field at the time of the invention, not by hindsight guided by Applicant's invention. Further, the combination should not be contrary to the teachings of the references, it must work, and it must produce the Applicant's invention. These criteria are not met by the cited combination as argued above. Therefore Applicant feels this application is in condition for allowance, which is respectfully requested.

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including fees for additional claims and terminal disclaimer fee, or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

Dated:_____

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